FREEHOTWATER

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Dear CPUC members,
I would like to thank you for your hard work consolidating and publishing the solar thermal commercial handbook. We as an industry appreciate the opportunity you have given us to comment on your work, and your willingness to keep an open mind and work with us to improve the end result of your consolidated effort. We also understand the balancing act that you need to perform. Create an easy and steamed lined process that hopefully will jump start a vibrant solar thermal business while protecting the public money that was trusted in your hand by the legislator.

Please note that given the timeline and the response load you must be experiencing, we kept our comments to the very minimum we feel is very important to be included in the first version of the handbook.

1. Paragraph 2.2.3
    a. We believe that **Open loop commercial systems with freeze protection** should be included in the incentive program. These systems are used all over the world and make a lot of sense for some applications. These systems deliver the desired Therms and provide freeze protection. Therefore, there's no reason why they will not be considered as a viable way to provide solar thermal energy where the economics dictate the need for such a system.

    b. We strongly believe that **Commercial Pre heat, open loop systems with freeze protection** should be allowed in the incentive program. These systems deliver the desired Therms and freeze protection required by the program. Therefore, there's no reason why they cannot be used when the application shows them to be the best and most cost effective way to deliver the desired heat to the facility. To illustrate the effectiveness of the system I have attached a project as a case study to show how these systems make a lot of sense in certain. Currently the program pays $12.72 per them saved / yr. However, using the **commercial pre heat open loop systems** as proposed, would lower the cost / Therm to the program to an estimated $6.88/Therm /yr. (~50% savings – details in attached PDF file).

June 12, 2010

2. Paragraph 2.7.2 large systems metering
    a. 50/50 true-up incentive payment after one yr. I would like to divide our feedback as follow:
        i. **Systems that the PA has guidelines (see Appendix D)** - The PA require that we follow their guidelines when we design and build these systems. Therefore if we build a system to the PA specification and guidelines, we should get paid for these systems upon inspection completion.

        ii. **Systems that the PA has no guidelines** – We understand the need of the PA to protect itself and verify that the designed and built system is the right system for the facility. However, a 50/50 pay is too high of a ratio and would put a serious burden on the solar thermal business in terms of finance and carrying the 50% of the cost for a full year. More seriously, it would expose the small business owner to swings in economic activity, which he has no control over. Once the US / Local business activity slows, the use of hot water will slows accordingly. To solve this conflict we would like to propose that the contractor will submit:
            1. Historical energy usage in the form of utility bills (water and energy)
            2. 2-3 weeks of actual metered hot water usage at the facility in the form of a flow meter connected to the main hot water supply to the facility.
        iii. The combination of the above two factors should allow the PA to evaluate the proposed system with a much higher confidence level and therefore would allow the PA to pay a higher percentage of the incentive after inspection is completed.

        iv. We would like to propose a 90/10 ratio for contractors who are willing to go through the metering process and 50/50 for those who would not.

3. Metering – We understand the need for metering and support it. However, we would like to highlight a couple of concerns that we have with the metering guidelines:
    a. Hardware accuracy and specs dictate "lab accuracy" equipment that drives the cost of a monitoring system to a minimum of $3,500 before installation, warranty and monitoring. This cost is equivalent to the cost of 7 collectors (out of 15 collectors on small systems) which is significant in any measure.
    b. By mandating extreme accuracy the PA is limiting competition and as you can be sure that with demand prices will only go up.
    c. Allowing +/- 2% accuracy would allow many more good industrial hardware manufacturers to compete in the market place keeping the lid on hardware price.

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Considering that sunlight varies wildly with the weather, a +/-2% tolerance is close enough to assure that the systems works and delivers the intended energy, and no one is taking advantage of the public's money.

We would appreciate if you will consider the above comments into your final handbook decision. We are always available to discuss any one of our concerns and are available by phone or email at all time.

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